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NOTICE OF ALLOWANCE AND FEE(S) DUE

23122 7590 06/30/2008

RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER

ELPENORD, CANDAL

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 06/30/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,210

03/03/2005

Hirokazu Kobayashi

MAT-8668US

7505

TITLE OF INVENTION: NETWORK CONNECTION APPARATUS AND NETWORK CONNECTION SWITCHING METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	09/30/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

23122 7590 06/30/2008

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,210 03/03/2005 Hirokazu Kobayashi MAT-8668US 7505

TITLE OF INVENTION: NETWORK CONNECTION APPARATUS AND NETWORK CONNECTION SWITCHING METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	09/30/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
ELPENORD, CANDAL	2616	370-241000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/526,210	03/03/2005	Hirokazu Kobayashi	MAT-8668US	7505
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RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			ELPENORD, CANDAL	
			ART UNIT	PAPER NUMBER
			2616	
DATE MAILED: 06/30/2008				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 589 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 589 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/526,210

Examiner

CANDAL ELPENORD

Applicant(s)

KOBAYASHI ET AL.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to March 28, 2008.
2. ☒ The allowed claim(s) is/are 1-26, renumbering as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 1-26 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>See Continuation Sheet</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: March 03, 2005, February 13, 2008.

Reasons For Allowance

1. The following is an Examiner's statement of reasons for allowance:

Claims 1-26 are allowed.

The present invention is directed toward a network connection apparatus for connecting a plurality of network connection apparatuses to a single local area network for processing the exchange of advertisement messages to determine operating state such as standby state using the priority within the advertisement messages. Each independent claim uniquely identifies the distinct features.

Regarding independent claim 1, a network connection apparatus for operating a plurality of network connection apparatuses connected to a local area network virtually as one network connection apparatus, the network connection apparatus comprising: a state monitor section for managing an operating state as the network connection apparatus; a message processing section for performing an exchange process of an advertisement message representative of the operating state during operation as the network connection apparatus; a priority comparing section for acquiring priority information representative of a priority to operate as the network connection apparatus from the advertisement message received, and comparing same with priority information possessed; and a master transition timer section for counting for a timing of transition of from a standby state into the operating state as the network connection apparatus; whereby, when the state monitor section decides that the network

connection apparatus is not in the operating state, the priority comparing section commences a process for arbitration between the network connection apparatuses in standby state to transit to the operating state by use of the master transition timer at a time deciding that the priority possessed is higher than the priority information of within the advertisement message received.

Regarding independent claim 10, a network connection apparatus for operating a plurality of network connection apparatuses connected to a local area network virtually as the network connection apparatus, the network connection apparatus comprising: a state monitor section for managing an operating state as the network connection apparatus; a message processing section for performing an exchange process of an advertisement message representative of the operating state during operation as the network connection apparatus; an advertisement timer for counting for a timing to send the advertisement message at a regular interval; a message timer section for counting a time to decide whether the advertisement message is received in a predetermined time from the network connection apparatus operating as the network connection apparatus; and a priority comparing section for acquiring priority information representative of a priority to operate as the network connection apparatus from the advertisement message received, and comparing same with priority information possessed; and a master transition timer section for counting for a timing of transition of from a standby state into the operating state as the network connection apparatus; whereby, when the

state monitor section decides that the network connection apparatus is not in the operating state, the priority comparing section in a case of the decision that the priority possessed is higher than the priority information in the received advertisement message compares between a remaining time of the message timer section and a skew time calculated based on the priority possessed, to set the skew time to the master transition timer section when the skew time is shorter, so that, when the master transition timer section goes into a time-up, the state monitor section instructs the message processing section to send another advertisement message requesting for transition of from the operating state into the standby state to the network connection apparatus.

Regarding independent claim 17, a network connection switching method comprising: a state monitoring step of deciding whether a plurality of network connection apparatuses connected to a local area network are in operating state or in standby state as a network connection apparatus to operate virtually as one network connection apparatus; a step of receiving an advertisement message from a second network connection apparatus in operating state as the network connection apparatus by a first network connection apparatus decided as the standby state in the decision; and a priority comparing step of comparing between priority information, in the advertisement message, representative of a priority to operate as the network connection apparatus and priority information possessed; whereby an arbitration process is commenced between the network connection apparatuses in the standby

state to transit to the operating state at a time that the priority possessed is decided higher in the priority comparing step.

Regarding independent claim 18, a network connection switching method comprising: a state monitoring step of deciding whether a plurality of network connection apparatuses connected to a local area network are in operating state or in standby state as a network connection apparatus to operate virtually as one network connection apparatus; a step of receiving an advertisement message from a second operating network connection apparatus in an operating step as the network connection apparatus by a first network connection apparatus decided as standby state in the decision; a step of counting a master down time for a decision as to whether the advertisement message is to be received in a predetermined time from the second network apparatus; a step of notifying of a transition to operating state from the first network apparatus to the second network apparatus when the master down time expires; a priority comparing step of comparing between priority information, in the advertisement message, representative of a priority to operate as the network connection apparatus and priority information possessed; and a step of comparing between a remaining time of the master down time and a skew time calculated shorter in time as the priority possessed is higher when the priority possessed is higher in the priority comparing step, and replacing the master down time with the skew time when the skew time is shorter.

The closest prior arts, Yamaya et al (US 2002/0184387 A1) discloses conventional method and systems for connecting a plurality of networks for providing routing redundancy when failure is detected in one device (router) operating in the master state, then the device in the backup state or standby state transitions to the master state as suggested in paragraphs 0010, 0011, 0013, 0046, 0064-0066; the master down timer as suggested in paragraphs 0055-0061.

Yamaya '387 fails to disclose the step of comparing between a remaining time of the master down time and a skew time calculated shorter in time as the priority possessed is higher when the priority possessed is higher in the priority comparing step, and replacing the master down time with the skew time when the skew time is shorter.

Srikant et al (EP 1006702 A2) from the same field of endeavor discloses a convention method for setting the master down timer to the skew timer as suggested in paragraphs 0018-0020. Srikant '702 further discloses using priority of ports to trigger transitioning of routers to either the backup/standby state or master state as suggested in paragraphs 0010-0011.

Yip et al (US 6,954,436 B1) from the same field of endeavor discloses method and apparatus for selecting redundant routers using priority values as suggested in col. 2, lines 26-46, col. 4, lines 59 to col. 5, lines 8.

Therefore, the closest prior arts in combination fail to disclose the claimed features: **regarding claim 1**, whereby, when the state monitor section decides not in an operating state, the priority comparing section commences a process for arbitration between the network connection apparatuses in standby state to transit to an operating

state by use of the master transition timer at a time deciding that the priority possessed is higher than the priority information of within the advertisement message received; **regarding claim 10**, whereby, when the state monitor section decides not in an operating state, the priority comparing section in a case of decision the priority possessed is higher than the priority information in the received advertisement message compares between a remaining time of the message timer section and a skew time calculated based on the priority possessed, to set the skew time to the master transition timer section when the skew time is shorter, so that, when the master transition timer section goes into a time-up, the state monitor section instructs the message processing section to send an advertisement message requesting for transition of from operating state into standby state to the network connection apparatus operating as a network connection apparatus; regarding claim 17, whereby an arbitration process is commenced at between the network connection apparatuses in standby state to transit to operating state at a time that the priority possessed is decided higher in the priority comparing step; **regarding claim 18**, a step of comparing between a remaining time of the master down time and a skew time calculated shorter in time as the priority possessed is higher when the priority possessed is higher in the priority comparing step, and replacing the master down time with the skew time when the skew time is shorter. Therefore, the closes prior arts in combination fail to anticipate or render the distinct features of independent claims obvious.

Dependent claims 2-9, 11-16, 19-26 are allowed since they depend on claims 1, 10, 18 respectively.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ma et al (US 6,856,591 B1), Hess et al (US 5,835,596), Ichinohe et al (US 6,148,411), Critchfield et al (US 7,152,179 B1), Kuo et al (US 7,209,435 B1), and Jensen et al (US 7,092,354 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDAL ELPENORD whose telephone number is (571)270-3123. The examiner can normally be reached on Monday through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Bin Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Candal Elpenord/
Examiner, Art Unit 2616

/Kwang B. Yao/
Supervisory Patent Examiner, Art Unit 2616